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Texas A&M Beef Cattle Short Course: Program Evaluation

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Cover Page Footnote

We would like to thank Paige Phillips for entering the survey results and for data maintenance, and Paul Pope for his assistance in developing the survey and in data collection. We would also like to thank Jason Banta, Bruce Carpenter, Ron Gill, Davey Griffin, Dan Hale, Stephen Hammack, Fred McCollum, and Joe Paschal (Texas A&M Animal Science Extension Specialists) for their contribution to the organization of the BCSC.

Texas A&M Beef Cattle Short Course: Program Evaluation

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Abstract. Survey results ($n = 3,748$) collected over a period of 7 years from the Texas A&M Beef Cattle Short Course (BCSC) were analyzed to evaluate course demographics and the impact of the course on attendees. Results of this survey demonstrate that attendee demographics of the BCSC are representative of beef cattle producers in the United States and that the BCSC is effective at delivering information that positively impacts beef production in Texas. Extension professionals can make use of these findings to tailor future education programs to better serve the needs of beef cattle producers nationwide.

INTRODUCTION

The United States is the largest producer of beef in the world, and in 2018, cattle production represented approximately 18% of the \$371 billion total cash receipts from agricultural commodities nationwide (U.S. Department of Agriculture, n.d.). In Texas, cattle production is a \$12.3 billion industry, and beef is the most lucrative commodity produced in the state (Texas Department of Agriculture, n.d.). Beef cattle producers across Texas and throughout the nation are constantly seeking ways to optimize production efficiency and to maintain competitiveness in order to adapt to the ever-changing dynamics and challenges of the beef cattle industry. Beef production is vital to both the national economy and global food production; therefore, improving efficiency and productivity of the beef cattle industry is critical.

Professor John K. Riggs established Texas A&M's Beef Cattle Short Course (BCSC) in 1942; now, the BCSC is a joint effort of the Texas A&M AgriLife Extension Service, Texas A&M AgriLife Research, and the Texas A&M University Department of Animal Science. The BCSC takes place on the Texas A&M campus at the beginning of each August and includes approximately 1,700 participants annually. The aim of the BCSC is to bring together the top beef cattle researchers, educators, and industry leaders to address the most current issues in the industry and provide producers with cutting-edge information to use in their beef cattle operations. The BCSC is considered the largest attended beef cattle educational program of its type both nationally and internationally. The BCSC education sessions cover topics such as

animal health, nutrition, reproduction, breeding, genetics, marketing, and handling, and are meant for participants of all experience levels—from the newest member of the industry to the most seasoned cattle producer. Each day, the event is split into three morning and two afternoon blocks in which participants can choose from five to six individual sessions that are held concurrently within the four-hour blocks; participants have access to more than 20 different sessions during the three-day program. The BCSC trade show also boasts over 150 agriculture-related businesses and exhibitors over the duration of the course each year. Registration for the event is \$210 and includes access to all educational sessions, six meals, a copy of the 600-page proceedings, and access to the industry trade show.

Following the completion of the BCSC, many attendees complete a questionnaire to provide feedback and an assessment of their experience. The questionnaire includes questions concerning attendee demographics, overall course satisfaction, economic benefit, and intent to adopt practices. Using the information generated from these surveys, we conducted an evaluation of the BCSC from 2013 through 2019.

PURPOSE AND OBJECTIVES

The dual purposes of this study were to determine the impact of the BCSC on attendees by analyzing questionnaires collected over seven years and to evaluate the effectiveness of the planning and marketing strategies for the Extension program. Understanding these factors will help Extension professionals adjust program planning strategies to ensure

the success of current and future educational programs for beef cattle producers. Our objectives were to (a) characterize attendee demographics, (b) determine the likeliness that information from the BCSC will be utilized to make managerial decisions, (c) determine whether attendees anticipate benefiting economically from attending the BCSC, and (d) assess overall attendee satisfaction.

METHODS

We collected survey results from the BCSC over a period of seven years, from 2013 to 2019. Table 1 provides descriptions of the 15 main items in the questionnaire. Not all attendees of the BCSC completed a survey between 2013 and 2019, and not all participants answered all parts of every item. In total, we analyzed 3,748 questionnaires. We conducted a descriptive statistical analysis of the survey responses and reported the percentage or number of responses within each category for each survey question. We utilized a combination of sur-

vey question types, which include Likert scale, dichotomous, multiple choice, rating scale, and open-ended questions (Table 1). We assigned responses to open-ended questions to specific categories for analysis. Due to the nature of the BCSC, many of the presentation and session names are different each year; therefore, we grouped a number of presentations and smaller sessions into larger, more general session names according to the overarching topic. In addition, due to the structure of the course, not all participants attended all sessions; therefore, the data presented in Figures 3 and 4 represent a more general evaluation of producer feedback. For the analysis of whether attendees intend to adopt production strategies covered during the BCSC, we removed the “Did Not Attend” selections from each session analysis to keep Figure 4 concise.

Table 1. Description of Items Included in the Texas A&M Beef Cattle Short Course Questionnaire

Item	Question text	Response
1	Overall, how satisfied are you with the BCSC?	5-point Likert scale (completely–not at all)
2	Please indicate your intentions to adopt a practice from each session listed below.	7-point Likert scale (already adopted; definitely will; probably will; undecided; probably will not; definitely will not; did not attend)
3(a)	Do you anticipate benefiting economically as a direct result of what you learned from BCSC?	Dichotomous question (Yes or No)
3(b)	If “Yes” to 3(a), which sessions will be the most economically beneficial?	Open-ended question
4	Based on the information provided at this course, what is the likelihood that you would recommend the BCSC to your family and friends as a source for information on beef cattle production?	Rating Scale (1 to 10)
5	You are primarily a:	Multiple choice: single answer (cow-calf producer; feedlot operator; stocker cattle operator; N/A)
6	Your operation is primarily:	Multiple choice: single answer (purebred; commercial; N/A)
7	How many years have you been ranching?	Open-ended question
8	How many acres do you have for ranching?	Open-ended question
9	How many head of mature beef cows do you have?	Open-ended question
10	What percentage of your income is generated from cattle?	Open-ended question
11	You are a:	Dichotomous question (male or female)
12	In what year were you born?	Open-ended question
13	Racial / Ethnic background?	Multiple choice: single answer (African American; Asian American; Caucasian; Hispanic; Native American; other)
14	How did you hear about the BCSC this year?	Multiple choice: select all that apply (email; Facebook; mailed brochure; newspaper; radio; trade publication; twitter; website; word of mouth; other)
15	How many years have you attended the BCSC (including this year)?	Open-ended question

RESULTS

Between 2013 and 2019, 3,748 of the 13,098 registered BCSC attendees returned surveys for a response rate of 28.6%.

DEMOGRAPHICS

The majority of the respondents are involved in cow-calf production (Table 2), particularly in a commercial setting. Most respondents have between 101 and 500 acres devoted to ranching, and larger operations with greater than 5,000 acres represent only 4.7% of participants. Likewise, most respondents run relatively small cattle operations; almost half of the respondents have 30 or fewer cows and 79% of respondents run a cow herd of 100 head or less. These data corroborate the report from the 2017 Census of Agriculture by the National Agricultural Statistics Service (NASS), where farms with fewer than 100 beef cows account for 90.1% of all farms with beef cows in the United States (NASS, 2019).

Table 2. Cattle Operation Characteristics of Respondents from the Texas A&M BCSC, 2013–2019

Item	%
<i>Cattle operation type</i>	
Cow-calf	82.7
Feedlot	0.5
Stocker	4.2
Not applicable	12.6
<i>Cattle type</i>	
Commercial	62.6
Purebred	20.8
Not applicable	16.7
<i>Number of acres for ranching</i>	
1–50	13.8
51–100	13.8
101–500	40.8
501–1,000	13.3
1,001–5,000	13.7
5,001–10,000	2.3
10,000+	2.4
<i>Number of mature beef cows</i>	
≤ 10	14.5
11–30	29.2
31–50	16.0
51–100	18.8
101–200	11.7
201–500	6.6
501–1,000	1.6
1,001+	1.6

Participant gender and race characteristics are similar to those described by the 2017 Census of Agriculture; 64.3% of beef producers identify as male, and 94.3% of the producers across gender identify as Caucasian (NASS, 2019; Table 3). Interestingly, almost half of respondents have been ranching for 10 or fewer years, and almost a third of respondents have been ranching for five or fewer years. This indicates that the BCSC appeals to a less-experienced generation of beef producers who are actively seeking to enhance their knowledge in beef production. The majority of respondents are above the age of 50, which again is similar to the 2017 Census of Agriculture results where the average beef producer age was 57.5 years old (NASS, 2019). When looking at income gen-

Table 3. Demographic Profile of Respondents from the Texas A&M BCSC, 2013–2019

Item	%
<i>Gender</i>	
Female	29.5
Male	70.5
<i>Racial/ethnic background</i>	
African American	3.9
Asian American	0.4
Caucasian	86.4
Hispanic	6.5
Native American	1.1
Other	1.7
<i>Number of years ranching</i>	
1–5	30.1
6–10	16.1
11–20	21.1
21–30	14.0
31–40	9.2
41–50	5.6
51+	3.9
<i>Age of attendees</i>	
≤ 20	2.6
21–30	11.3
31–40	10.6
41–50	12.6
51–60	24.7
61–70	26.4
71+	11.8
<i>Proportion of income generated from cattle</i>	
1–25%	66.7
26–50%	17.6
51–75%	5.7
76–100%	9.9

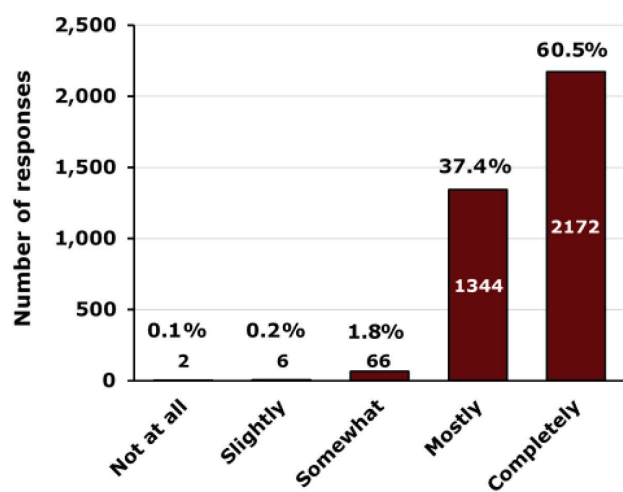


Figure 1. How participants heard about the Texas A&M Beef Cattle Short Course, 2013–2019.

erated by cattle, only a small proportion of respondents generate more than 75% of their income from cattle. In fact, the majority of participants generate 25% or less of their income from cattle. Therefore, it appears that cattle production is an additional source of income for most respondents. This is corroborated by a survey completed by cow-calf producers in Oklahoma, which reported that 58.9% of producers indicate that less than 20% of their generated income is from cattle (Williams et al., 2013). Overall, these demographic data demonstrate that BCSC attendees are a good representation of beef cattle producers in the United States. Hence, the data described herein are relatable to several Extension programs that serve the beef industry across the country.

SATISFACTION AND LIKELIHOOD OF RECOMMENDATION

Most participants consider themselves completely satisfied with the BCSC program (Figure 1). In addition, a large proportion of participants are mostly satisfied with the program. Only 0.002% of respondents are slightly satisfied or not satisfied at all with the program.

The majority of participants are very likely to recommend the BCSC to other producers and select a recommendation score of 10 (Figure 2). Only 1.7% of participants select a score of 5 or less.

ECONOMIC BENEFIT AND INTENTION TO ADOPT

Approximately 89.5% of participants anticipate benefiting financially (and 10.5% of participants do not) as a result of attending the BCSC (Figure 3). Overall, participants voted that the Forage Management session was the session which they feel was most economically beneficial, followed closely by the Introduction to Cattle Production session.

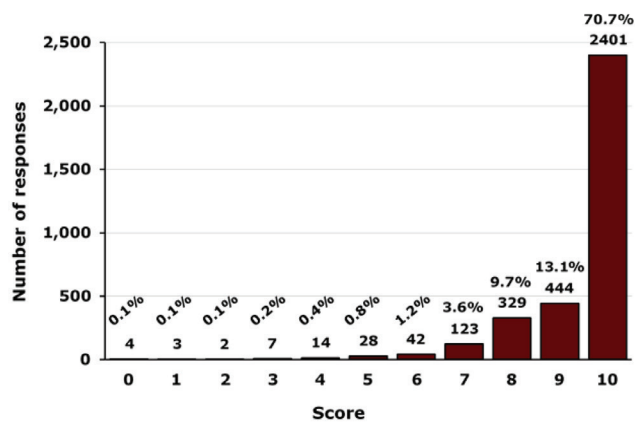


Figure 2. Likelihood that attendees will recommend the Texas A&M BCSC, 2013–2019.

The Introduction to Beef Cattle Production session was the topic from which the greatest number of producers claimed they would definitely adopt practices ($n=1,300$), followed by the Forage Management ($n=1,129$) and Beef Cattle Health Management ($n=775$) sessions (Figure 4). Interestingly, the top two sessions for definite incorporation are the same top two sessions selected as the most economically beneficial.

ADVERTISING

Word of mouth is the predominant method by which participants hear about the BCSC; this is unsurprising, as beef cattle producers consider other cattle producers a preferred source of information (Vergot et al., 2005; Figure 5). Email is the second most common way in which participants hear about the BCSC, likely due to the ease of disseminating information this way. Social media platforms such as Twitter and Facebook do not appear to be major contributors for recruiting beef producers. Nevertheless, the number of people that claimed to have heard about the BCSC via Facebook gradually increased overall between 2013 and 2019. In the future, we may see greater numbers of producers recruited to the BCSC through social media as it becomes a more popular method of information dissemination and as the infrastructure in rural areas allows for improved internet connections. Even so, it appears that the use of emails and mailed brochures continue to be effective marketing strategies for attracting producers to the BCSC. Due to the costs associated with mailed brochures, it is important to continuously evaluate their effectiveness to justify their cost-to-benefit ratio.

ATTENDANCE

Approximately half of the participants were attending the BCSC for the first time when completing the survey (Figure 6). Interestingly, 6.2% of the participants have attended the BCSC for more than 10 years; we find this unsurprising

Texas A&M Beef Cattle Short Course



Figure 3. Most economically beneficial session according to attendees of the Texas A&M BCSC, 2013–2019.

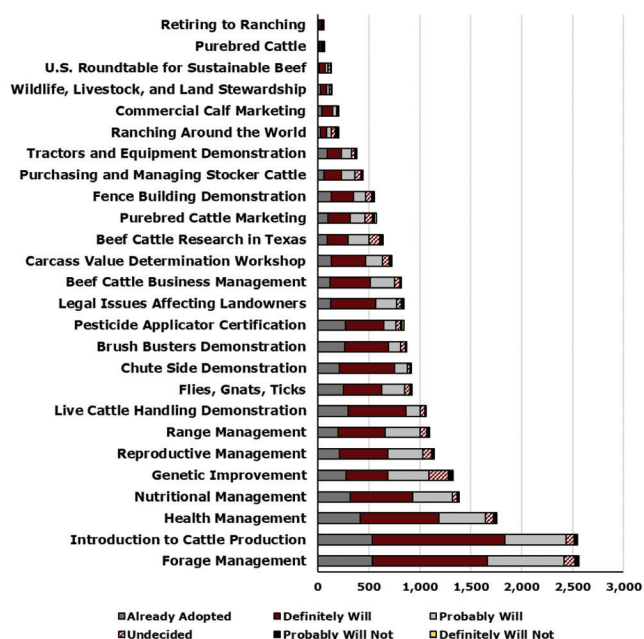


Figure 4. Intentions of attendees to adopt practices from different sessions of the Texas A&M BCSC, 2013–2019.

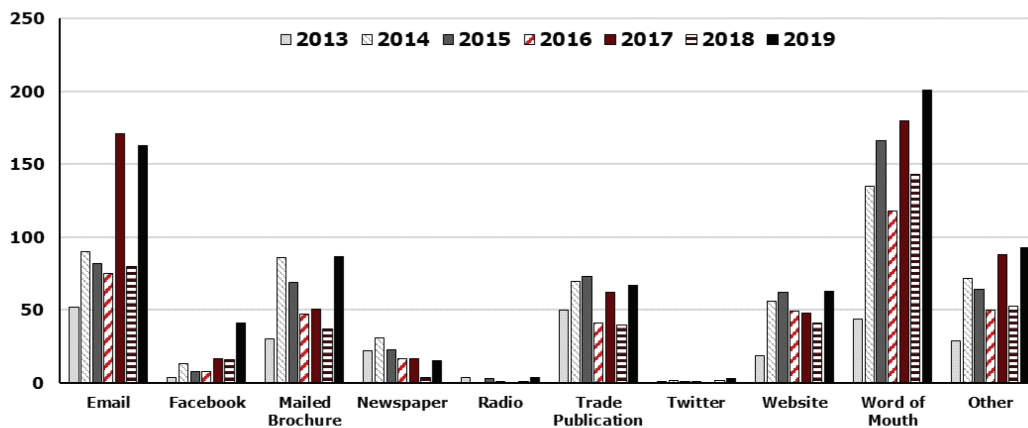


Figure 5. How participants heard about the Texas A&M Beef Cattle Short Course, 2013–2019.

based on the consistently positive feedback provided by the participants, who appear to be satisfied with the quality of the BCSC program.

CONCLUSION AND IMPLICATIONS

Extension educators across the United States are continually faced with the challenge of implementing creative educational programs that will be attended by and meet the needs of their clientele. Ever-changing beef cattle producer demo-

graphics require Extension coordinators to continuously modify educational strategies to avoid becoming stagnant.

Results from this data bring us to several conclusions. First, the BCSC attendee demographics are representative of the population of beef cattle producers in the United States; therefore, these results may be applicable to a broader Extension audience. Second, the BCSC is an appropriate source of information for newer beef producers, as many attendees have been ranching for 10 or fewer years and many rank introductory cattle production classes as courses from which

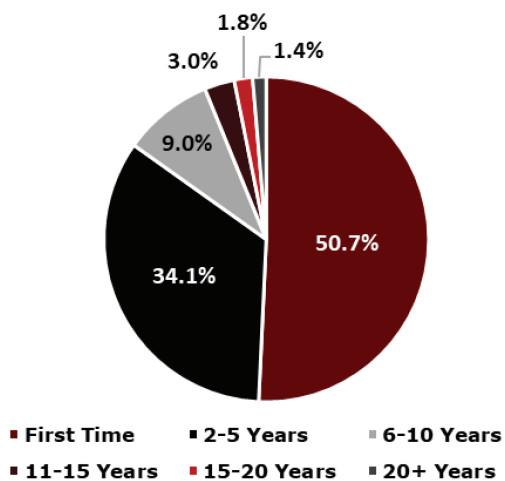


Figure 6. Number of times respondents attended the Texas A&M Beef Cattle Short Course, 2013–2019.

they will definitely adopt learned practices. Third, a large proportion of attendees indicate that they will incorporate newly gained knowledge into their operations and claim that adoption of these practices will have a positive economic impact on their operations; consequently, the BCSC positively affects beef cattle production.

Disseminating information in the form of an educational short course still appears to be a relevant and effective method of engaging clientele. By using the information presented here, Extension educators can tailor education programs to better meet the needs of beef cattle producers in the United States. Participants of the BCSC found forage management and introductory cattle production education sessions to be the most influential to their operations; therefore, future short courses or educational programs should create more learning opportunities that focus or expand on these topics. By focusing on topics that are more likely to be adopted by producers and that are more economically beneficial, Extension educators may have a greater impact in producer education and production efficiency. Nevertheless, when catering to a diverse audience it is also important to include topics that may not necessarily be the most influential but that will create more specialized learning opportunities for producers that already have a solid grasp on the fundamentals of cattle production.

Ultimately, many features of the BCSC contribute to its success: (a) planning begins at the producer level and educational sessions are based on what producers indicate they need, (b) the course offers a wide variety of educational sessions that address various producer interests as well as ranching experience levels, and (c) due to the facilities, food, networking opportunities, and unique hands-on demonstra-

tions, there is an atmosphere that enhances the educational experience. When taken into consideration, these aspects may assist Extension educators in planning future educational programs.

Following the results of this study, the BCSC intends to enhance current marketing and outreach strategies to focus on attracting a more racially diverse audience. Additionally, the BCSC plans to increase the number of education sessions that focus on forage management and introductory cattle production (and plans to include these sessions in various time blocks to ensure that all participants have an opportunity to attend). Lastly, there will be a new session on applied ranch management added to the BCSC to bring together information from some of the topics in this study and emphasize a whole-ranch approach.

Overall, the data presented here indicate that the BCSC educational program is effective at delivering relevant information that can positively affect beef production efficiency in the United States.

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